Smarter Balanced Assessment Consortium
User Provisioning

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CONTENTS

LIST OF FIGURES

INTRODUCTION

Motivation for Managing User Accounts with CSV Files

The Smarter Balanced user provisioning system provides the ability to manage users through comma-separated value (CSV) files. This utility provides the following actions:

- Adding new users.

- Deleting existing users.

- Setting the email address for messages regarding the file's processing.

Workflow for File Uploads

The general workflow for managing users through CSV files is as follows:

1. Acquire the template CSV file, and open it in a spreadsheet application.
2. Add the data to the CSV file.
3. Save the spreadsheet as a CSV file.
4. Upload the CSV file.
5. Reconcile errors; resubmit the whole file or individual records as appropriate.

Understanding CSV Files

A CSV file contains information that you might see in a table or spreadsheet. Each row in the spreadsheet corresponds to a *line* a CSV file, and each cell in the spreadsheet corresponds to a *field* in the CSV file. Figure 1 and Figure 2 show the relationship between a spreadsheet and a CSV file.

Figure 1. Table in a spreadsheet application

	A	B	C	D	E	F	G
1	action	password	firstname	lastname	phone	email	state
2	NOTIFY		John	Doe		jdoe@sbac.org	
3	ADD	apml1fy14	Jane	Doe	202-555-5555	janedoe@sbac.org	DC
4	ADD		John	Smith	202-555-1234	jsmith@sbac.org	
5	ADD		Jane	Smith		janesmith@sbac.org	
6	DEL					newuser@sbac.org	

Figure 2. CSV file in a text editor
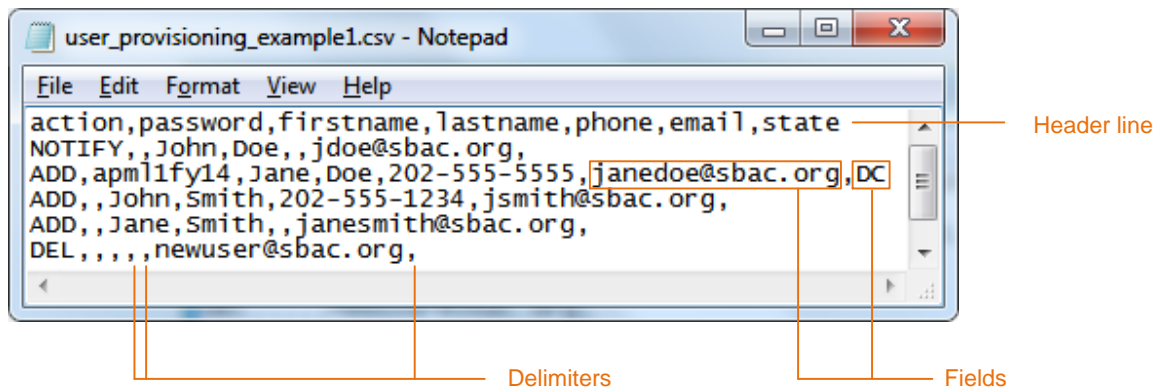

Header line
Delimiters
Fields

[Figure 2](#) illustrates some important differences between CSV files and spreadsheets:

- **Header line**—The first line in a CSV file is a *header line*. It describes the data in the corresponding fields, similar to the first row in a spreadsheet.

- **No formatting**—Spreadsheets can have formatting, such as boldface, center alignment, colored text, or colored background. CSV files have no such formatting; they contain only text.

- **Delimiters**—Spreadsheets place text within cells. CSV files place text between *delimiters*, such as the commas in [Figure 2](#).

- **Empty fields**—Spreadsheets show missing data as empty cells. CSV files indicate missing data as two consecutive commas. Referring to the last line in [Figure 2](#), the `action` and `email` fields have values, and the `password`, `firstname`, `lastname`, `phone`, and `state` fields are missing.

Creating CSV Files

You can create CSV files in a spreadsheet application such as Microsoft Excel or in a text editor such as Notepad. Excel and Notepad are on most Windows computers. If you don't have Excel, you can download an alternative spreadsheet application, LibreOffice, from https://www.libreoffice.org/.

Creating a CSV file from Microsoft Excel 2010

This section describes how to create a CSV file from Microsoft Excel 2010. For information about creating CSV files from other applications, see the

Warning: CSV filenames must have no embedded spaces The file upload process requires that the filename of the CSV file to be uploaded have no embedded spaces. For example, a file named "My Digital Library Users.csv" will be rejected. Use and underscore ("_") character instead of a space to create a filename such as "My_Digital_Library_Users.csv."

Warning: Use unique names for your CSV filenames. If you use a common name for your CSV file, it's possible that you may overwrite someone else's files that use the same name, or that your file will be overwritten. Personalize your file names with additional characters such dates/times, initials, school or district IDs, etc. This makes it much less likely that your file or someone else's file is overwritten.

Warning: You will not be notified of errors in the upload process without at least one row with a "NOTIFY" action as indicated in Table 2. Columns in a CSV Upload File. The use of a NOTIFY row provides contact information for system notifications of the status of the file upload. Include at least one NOTIFY row in order to be informed of the success or failure of the processing of the uploaded file.

Make sure all key personnel are notified according to your state's preferences. You can use as many NOTIFY rows in an upload as you want. If your state indicates that there is a designated person or persons that should receive notifications, add additional NOTIFY rows so they are emailed with the status of the file uploads as well.
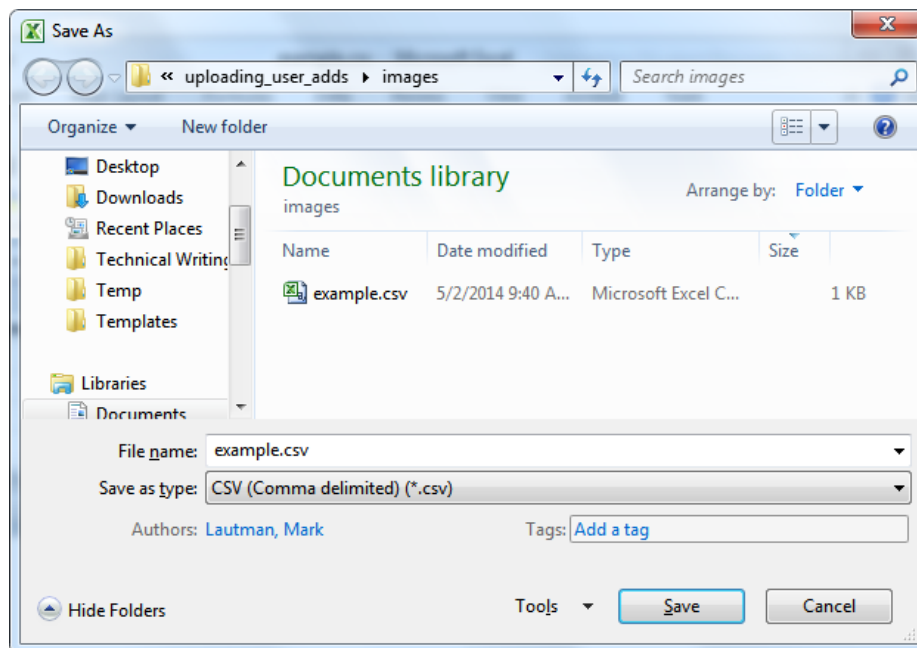
Creating a CSV file from other Spreadsheet Applications section.

To create a CSV file from Microsoft Excel 2010:

1. Type the data inside Excel.
2. Save the file by pressing Ctrl+s.
3. Save the file as CSV by doing the following:
   a. Press F12. The *Save As* dialog box appears (see Figure 3).
   b. In the *File name* field, type a name for the file. Use "csv" as the extension.
   c. From the *Save as type* drop-down list, select "CSV (Comma delimited) (*.csv)."
   d. Click [**Save**].
   e. If you receive a warning "The selected file type does not support workbooks that contain multiple sheets," click [**OK**].
   f. If you receive a warning that your spreadsheet contains features not compatible with CSV, click [**Yes**].

Excel saves your spreadsheet as a CSV file.

Figure 3. Saving an Excel file as CSV

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Creating a CSV file from other Spreadsheet Applications

You can create CSV files from a variety of spreadsheet applications. Table 1 lists common spreadsheet applications and links to pages that explain how to save spreadsheets as CSV.

Table 1. Web pages for saving spreadsheets as CSV

Application	Web Page for Saving as CSV
Microsoft Excel 2007	http://office.microsoft.com/en-us/excel-help/import-or-export-text-txt-or-csv-files-HP010099725.aspx#BMexport
Microsoft Excel XP/2003	http://office.microsoft.com/en-us/excel-help/save-a-workbook-in-another-file-format-HP005202390.aspx?CTT=5&origin=HP001130599
LibreOffice	https://help.libreoffice.org/Calc/Importing_and_Exporting_CSV_Files

Note: Creating CSV Files in Text Editors You can also create CSV files in text editors. Start a new file, type the header line, and then type the body lines. Remember to separate each field with a comma.

UPLOAD PROCESS

Installing an SFTP Client

You place CSV files onto the provisioning system through the Secure File Transfer Protocol (SFTP)—a protocol that encrypts files as they traverse the Internet. This protocol is available through several software applications. This section describes how to install FileZilla, the recommended application for uploading files to the system.

> **Warning: Partial Uploads with WinSCP** WinSCP is a popular program for transferring files over SFTP. Because WinSCP uploads files in segments, the provisioning system may start reading a partial file and reject some or all of the containing records. To avoid these complications, use an SFTP application that does not upload partial files.

Installing FileZilla

FileZilla is a free software application for transferring files over the Internet.

To install FileZilla:

1. In your web browser, go to page for downloading the FileZilla client at https://filezilla-project.org/download.php?type=client.
2. On the FileZilla Client Download screen, click the download link for Windows. (Use one of the other links if you have a Macintosh or Linux computer.)
3. Save the installation file on your computer, and run it. (Detailed instructions for installing FileZilla on a variety of platforms is available at https://wiki.filezilla-project.org/Client_Installation.)

Acquire the Template File

The easiest way to create an upload file is from an existing template. You can acquire a copy of the template file by contacting technical support. See the Technical Support section for contact details.

Create the Upload File

The upload file you create must have a header line that contains all the columns appearing in Table 2. In addition, each line under the header line must conform to the definitions in Table 2.

> ❌ **Warning: Incorrect Header Line** The first line of your upload file must have a header line exactly as that appearing the template file; otherwise the entire upload processing fails. To maximize the chances of successful processing, use the header line exactly as it appears in the template file.

> ❌ **Warning: Commas Not Allowed** Do not include commas in any of the fields within the CSV file. For example, the last name `Johnson, Jr.` is not allowed and may cause the entire upload to fail.

Table 2. Columns in a CSV Upload File

Column	Definition
action	Action to perform on the user's record. One of the following values: • ADD—Add a new record. • DEL—Delete an existing record. • NOTIFY—Contact information for sending messages when processing the CSV file. Required.
password	User's password. Must be at least seven characters long with at least one numeric character. Optional for the ADD action. If absent, the system creates a random password. Ignored for the DEL and NOTIFY actions.
firstname	User's first name. Required for the ADD action; ignored for the DEL and NOTIFY actions.
lastname	User's last name. Required for the ADD action; ignored for the DEL and NOTIFY actions.
phone	User's telephone number in XXX-XXX-XXXX format. Optional for the ADD action; ignored for the DEL and NOTIFY actions.
email	User's email address. Required.
state	User's two-letter state abbreviation. Optional for the ADD action; ignored for the DEL and NOTIFY actions.

Examples of Lines in a CSV File

The following sections describe the various actions you can perform using the CSV file.

Add a New User

To add a new user, ensure the action field is `ADD`, provide a firstname, lastname and email address; password is optional (the system generates a random password if missing), and phone and state are optional. The following example creates a user Jane Doe, password apml1fy14, telephone number 202-555-5555, email address janedoe@sbac.org, and residing in Ohio.

```
ADD,apml1fy14,Jane,Doe,202-555-5555,janedoe@sbac.org,OH
```

Delete an Existing User

To delete a user, ensure the action field is `DEL`, and provide an email address. The following example deletes a user with email address janedoe@sbac.org.

```
DEL,,,,,janedoe@sbac.org,
```

Set user for Error Notification

To set the user who receives email notifications regarding the upload, ensure the action field is `NOTIFY`, and provide an email address. The following example indicates the system sends email notifications regarding the upload to janedoe@sbac.org.

```
NOTIFY,,,,,janedoe@sbac.org,
```

Upload the CSV File to the System

You can upload a CSV file to the system using any application that provides the Secure File Transfer Protocol (SFTP). For best results, use FileZilla to upload files. For information about installing FileZilla, see the [Installing an SFTP Client](#) section.

Figure 4. FileZilla Upload Session
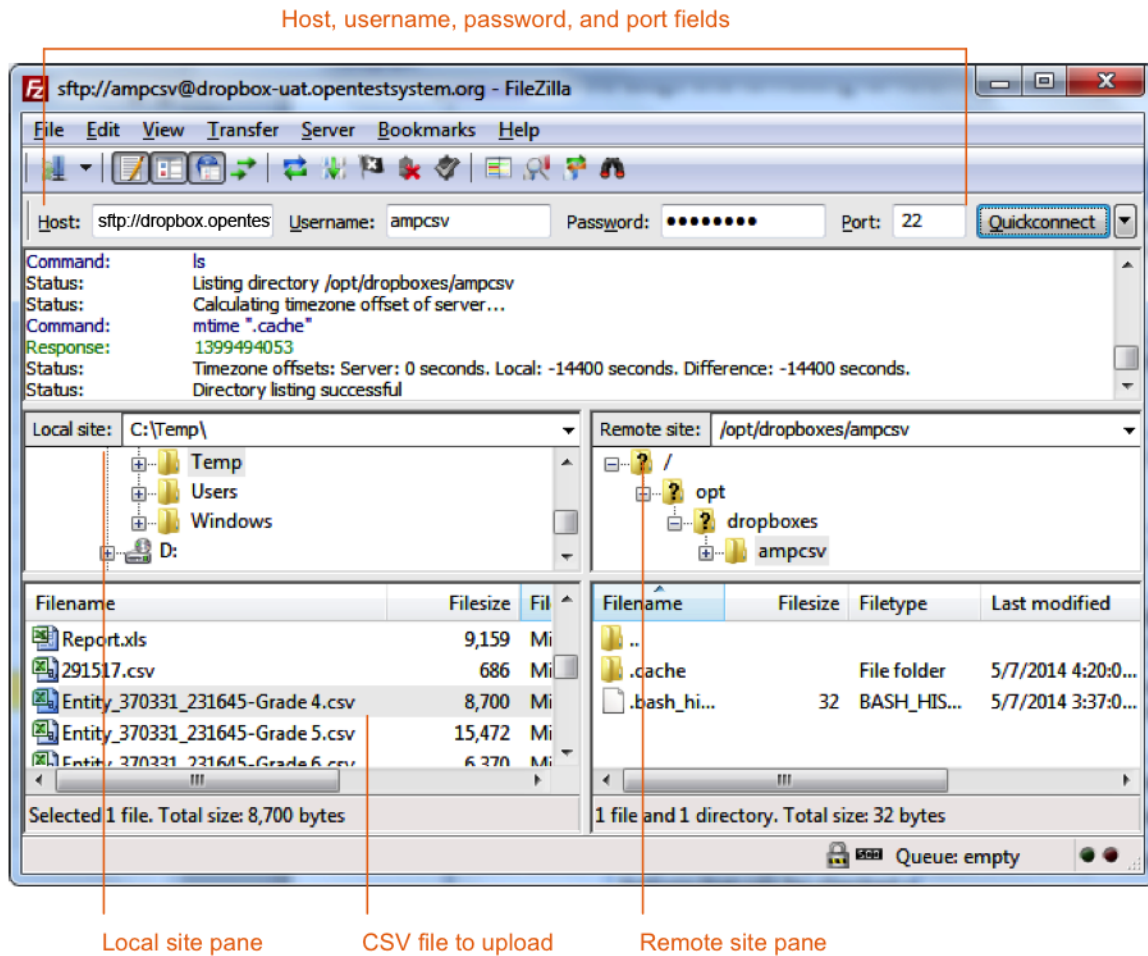
To upload a CSV file to the system:

1. Start FileZilla
2. In the *Host* field, enter **dropbox.opentestsystem.org**
3. In the *Username* field, enter **ampcsv**
4. In the *Password* field, enter **#8TMRquj**
5. In the *Port* field, enter **22**
6. Click [**Quickconnect**].
7. If you receive an Unknown host key dialog box, do the following:
    a. Ensure the indicated host is dropbox.opentestsystem.org:22.
    b. Mark the *Always trust this host, add this key to the cache* checkbox.
    c. Click [**OK**].
8. In the *Remote site* pane, ensure you are in the **/opt/dropboxes/ampcsv** folder.
9. In the *Local site* pane, navigate to the folder containing the CSV file you want to upload.
10. Under the *Local site* pane, right-click the file you want to upload and select "Upload."

When the upload is complete, the system starts processing the file and sends notifications to the indicated email address.

Note: Save Time Using FileZilla's Site Manager You can save the connection information appearing in steps 2–4 in FileZilla's Site Manager. This is useful if you need to upload files to the system many times. For information about the Site Manager, see https://wiki.filezilla-project.org/Site_Manager.

RECEIVING AND RESOLVING ERROR CODES

When processing a CSV file, the user provisioning system generates error messages at the file level (if it cannot process the entire file) or at the record level (if it cannot process individual records). The system sends these error messages to the email address associated with the NOTIFY line in the CSV file. The following sections describe the error messages and how to address them.

CSV file has in incorrect header line

Cause This error occurs if your CSV file has an incorrect header line—the first line in the file. The header line must be exactly the same as in the template file you can download.

Impact When this error occurs, the system imports none of the records. You must resubmit the entire file.

Resolution Repair the header line, preferably by copy-paste from the template file, and resubmit.

CSV file is corrupt

Cause This error occurs if your CSV file is in an incorrect format, such as an Excel format.

Impact When this error occurs, the system imports none of the records. You must resubmit the entire file.

Resolution Ensure the file is a standard CSV file; for details about creating a CSV file, see the Creating CSV Files section.

CSV file cannot be found

Cause This error occurs if the upload server cannot find the file you submitted.

Impact When this error occurs, the system imports none of the records.

Resolution Call technical support; the contact information appears in the Technical Support section.

CSV file cannot be read

Cause This error occurs if the upload server cannot read the file you submitted.

Impact When this error occurs, the system imports none of the records.

Resolution Call technical support; the contact information appears in the Technical Support section.

Missing REQUIRED field(s)

Cause This error occurs if a line in your CSV file is missing a required field. In the following example, the error messages have two lines. In the first line, the error message indicates that the `firstname` and `lastname` fields are blank. In the second line, the error message displays the offending line. Note how the `firstname` and `lastname` fields after the `password` field are empty.

```
Missing REQUIRED field(s) ( firstname lastname ) while processing ADD in the
following:
['ADD','Pa55word1','','','813.555.1212','bill.nelson@identityfusion.com','FL']
```

Impact When this error occurs, the system does not import the record.

Resolution Create a new CSV file that has a heading row. Re-type this record, including values for the missing fields.

Invalid Action

Cause This error occurs if you have an incorrect value in the `action` field. In the following example, the `action` field includes the value `MODER`, which is invalid. (For a list of valid actions, see Table 2.)

```
Invalid Action (MODER) detected:
['MODER','Pword','Bill','Nelson','813.555.1212','bnelson@identityfusion.com','CA']
```

Impact When this error occurs, the system does not import the record.

Resolution Create a new CSV file that has a heading row. Re-type this record, including a valid value for the `action` field.

Password DOES NOT MEET complexity requirements

Cause This error occurs if you specified a password that is not strong enough.

```
Password DOES NOT MEET complexity requirements in the following:
[MOD,,Mogrify,Landover,202-403-5622,mlautman@air.org,TX]
```

Impact When this error occurs, the system does not import the record.

Resolution Create a new CSV file. Re-type this record, using a password that is at least seven characters long with at least one numeric character.

TECHNICAL SUPPORT

For questions regarding the upload process or error messages, contact state agency staff supporting the Digital Library. If state staff is not able to resolve the error, he/she will work with Smarter Balanced to resolve the issue. 208-332-6923 or support@sde.idaho.gov